

Applicants: Anderson, *et al.*  
U.S. Application Serial No. 08/719,571  
Response to Final Office Action Dated May 28, 2004  
Date of Deposit: November 19, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

- 1-3. (Canceled).
4. (Currently Amended) A method for the enrichment of neural progenitor cells comprising RET protein, said method comprising:
  - a) combining a mixed population of cells comprising neural-crest derived cells comprising neural progenitor cells with an antibody that specifically binds to at least part of an extracellular sequence of said RET protein; and
  - b) selecting for RET positive cells which include multipotent cells that are insensitive to neuregulin, whereby the mixed population of cells is enriched for neuronal progenitor cells;
  - c) culturing ~~said RET positive cell~~; and
  - d) ~~selecting a subpopulation of said RET positive cell which produces neuronal progeny as neuronal progenitor cells; or~~
  - e) ~~selecting a subpopulation of said RET positive cell which produces both neuronal and nonneuronal progeny as proneuronal progenitor cells; or~~
  - f) ~~selecting a subpopulation of said RET positive cell which produces nonneuronal progeny as nonneuronal progenitors cells.~~

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5. (Previously Presented) The method according to claim 4 wherein said antibody is selected from the group consisting of polyclonal antibody, monoclonal antibody, antibody fragments, and single chain antibody.
6. (Previously Presented) The method according to claim 5, wherein said antibody is fluorochrome conjugated.
7. (Previously Presented) A method according to claim 6, wherein said selecting with said fluorochrome conjugated antibody is by flow cytometry.
8. (Previously Presented) The population according to claim 16 wherein said cells are nonneuronal progenitor (NNP) cells.
- 9-11. (Canceled).
12. (Previously Presented) The population according to claim 16 wherein said neural progenitor cells are bound to an antibody that specifically binds to RET antigen.
13. (Previously Presented) The population according to claim 12 or 16 wherein said antibody is selected from the group consisting of polyclonal antibody, monoclonal antibody, antibody fragments, and single chain antibody.
14. (Previously Presented) The population according to claim 13 wherein said antibody is a monoclonal antibody.
15. (Currently Amended) A method for the enrichment of neural progenitor cells, said method comprising:

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- a) combining a mixed population of cells comprising neural-crest derived cells comprising neural progenitor cells comprising RET protein with an antibody that specifically binds to at least part of an extracellular sequence of said RET protein; and
- b) selecting for RET positive cells which include multipotent cells that are insensitive to neuregulin, whereby the mixed population of cells is enriched for neuronal progenitor cells.;
- c) ~~culturing said RET positive cell; and~~
- d) ~~selecting a subpopulation of said RET positive cell which produces neuronal progeny as neuronal progenitor cells; or~~
- e) ~~selecting a subpopulation of said RET positive cell which produces both neuronal and nonneuronal progeny as proneuronal progenitor cells; or~~
- f) ~~selecting a subpopulation of said RET positive cell which produces nonneuronal progeny as nonneuronal progenitors cells.~~

16. (Currently Amended) A substantially pure population of neural crest derived neural progenitor cells comprising RET protein prepared using the method of claim 15, where said cells are proneuronal progenitor (proNP) cells, neuronal progenitor (NP) cells and/or nonneuronal progenitor (NNP) cells, and where such cells include multipotent cells that are insensitive to neuregulin.